Test Report No. 23372A

Sponsor

SABETOFLEX APS
Hesthøjvej 13
7870 Roslev
Denmark

Trade name of the roof covering

Sabetoflex roofing PIB Cold roof

Manufacturer of the roof covering

SABETOFLEX APS
Hesthøjvej 13
7870 Roslev
Denmark

Supplier of the roof covering

SABETOFLEX APS
Hesthøjvej 13
7870 Roslev
Denmark

Nature of the tests

Test methods for external fire exposure to roofs: Test 1: Method with burning brands, according to CEN/TS 1187:2012: Test 1.

PREPARED BY	APPROVED BY
Mikel Nachtergaele (Signature) Project coordinator 2024.06.21 14:00:49 +02'00'	Jarich Van Wesemael (Signature) Technical Sales Associate Ghent 2024.06.24 12:16:47 +02'00'

This report consists of 7 pages including 1 annex

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1. DATA CONCERNING THE TEST SPECIMENS

Type of specimen: Covering and sealing.

The firm SABETOFLEX APS has provided the laboratory, on 5-2-2024, with material to mount 4 specimens. These roof specimens were prepared conforming to the prescriptions of the above-mentioned standard. The laboratory supervised the specimen fabrication. The tests have been carried out at WFRGent NV, located at Ottergemsesteenweg-Zuid 711, 9000 Ghent, Belgium.

Sampling by	:	Ed Steijn (the sponsor)
Sampling date	:	14-02-2024
Sample ID	:	Not communicated by the sponsor
Production place	:	7870 Roslev Denmark
Production line	:	1
Production date	:	11-01-2024
Identification within the quality system	:	Not communicated by the sponsor

According to § 4.4.3.1 of the standard, there are five possible roof specimen types:

Type 1: A central vertical joint is applied in the top layer. No joints are required in any other layer (including insulation).

Type 2: A horizontal joint is applied in the top layer, 100 mm above the lower edge of the basket. A central vertical joint is applied in the insulating layer.

Type 3: No joint is applied in any of the weathering layers. A central vertical joint is applied in the insulating layer.

Type 4: A central vertical joint is applied in the weathering layer next to the insulation. No joints are required in any other layer (including insulation).

Type 5: A central vertical joint is applied in the layer adjacent to the top layer. No joints are required in any other layer (including insulation).

No measures have been taken to prevent the flames passing around the edges.

2. DESCRIPTION OF THE TEST ROOF DECK

This description is based on information given by the sponsor.

	Nominal values (1)	Measured values (2)
SUPPORTING DECK		
Material	Wood particle board with gaps ≤ 0,5 mm according to § 4.4.2. of the standard CEN/TS 1187	
ADHESIVE		
Material	SBR rubber contact glue	
Trade name	EasyFlex Adhesive	
Manufacturer / Supplier	Easyflex APS	
Applied amount, wet (g/m²)	150	
Solid content (m%)	29	
Use of flame retardants	No	
Curing time	5 minutes	
Application method	Spray	
ROOF COVERING		
Material	Top foil made of UV-resistant polyisobutylene	
Trade name	Sabetoflex roofing PIB with FR	
Manufacturer/ Supplier	Sabetoflex APS	
Total thickness (mm)	1,3	(3)
Total surface weight (g/m²)	1761	(3)
Flame retardants	None	(3)
Organic content (m%)	Not communicated by the sponsor	
Fixing method	Adhered	
Joints	Vertical, horizontal and none according to CEN/TS 1187-1 type 3	
Type	Overlap	
Overlap (mm)	100	

(1) Based on the information given by the sponsor
(2) Values verified by the laboratory
(3) Unverifiable by the laboratory, since the sponsor did not provide the laboratory with samples for measurement.

3. TEST RESULTS AND OBSERVATIONS

a) Calibration

Calibration date: 07/09/2023

	Calibration test 1	Calibration test 2	Calibration test 3	Mean value
Burning time (min:sec)	04:51	05:43	04:23	4:55

b) Test results

	Roof pitch:		45°	45°	45°	45°
	Ambient temperature: °C		14	14	14	14
	Roof specimen		1	2	3	4
	Specimen type, according to § 4.4.3.1		Type 1	Type 2	Type 3a	Type 3b
I	External fire spread upwards after:	100 mm	04:30	04:35	02:50	03:45
	(min:s)	300 mm	(*)	(*)	(*)	(*)
		500 mm	(*)	(*)	(*)	(*)
		700 mm	(*)	(*)	(*)	(*)
	Edge measuring zone (min:s)	800 mm	(*)	(*)	(*)	(*)
	External fire spread upwards	(mm)	200	200	155	235
	External fire spread downwards after:	100 mm	(*)	(*)	(*)	(*)
	(min:s)	300 mm	(*)	(*)	(*)	(*)
		500 mm	(*)	(*)	(*)	(*)
	Edge measuring zone (min:s)	600 mm	(*)	(*)	(*)	(*)
	External fire spread downwards	(mm)	35	28	50	40
	Internal fire spread upwards	(mm)	(*)	(*)	(*)	(*)
	Internal fire spread downwards	(mm)	(*)	(*)	(*)	(*)
	Falling of flaming material from the roof surface after	(min:s)	(*)	(*)	(*)	(*)
	Afterburning fallen material on the ground	(s)	(*)	(*)	(*)	(*)
	Maximum burnt length (mm)	Upwards	200	200	155	235
		Downwards	35	28	50	40
	Damaged area	(m^2)	0,133	0,142	0,165	0,158
	Lateral fire spread reaches the measuring zone edges	(yes/no)	No	No	No	No
	Max. radius of fire spread (for horizontal roofs only)	(m)	(-)	(-)	(-)	(-)
II	Falling of flaming materials from the underside of the test specimen after	(min:s)	(*)	(*)	(*)	(*)
	Afterburning fallen material on the ground	(s)	(*)	(*)	(*)	(*)
	Moment of fire penetration	(min:s)	(*)	(*)	(*)	(*)
	Openings formed >25 mm^2 or cracks > 2 mm after	(min:s)	(*)	(*)	(*)	(*)
	Total surface of openings	(mm^2)	(*)	(*)	(*)	(*)
III	Max. length burnt, internal material (mm)	Upwards	(*)	(*)	(*)	(*)
	in layer:	Downwards	(*)	(*)	(*)	(*)
	Non-flaming propagation (smouldering/glowing) (mm)	Upwards	(*)	(*)	(*)	(*)
	in layer:	Downwards	(*)	(*)	(*)	(*)
	Extent of internal damage (mm)	Upwards	(*)	(*)	(*)	(*)
	in layer:	Downwards	(*)	(*)	(*)	(*)
	Damaged area	(m^2)	0,133	0,142	0,165	0,158
	Depth of damage in the insulation	(mm)	N.a.	N.a.	N.a.	N.a.
	Internal glowing combustion in layer:	(yes/no)	No	No	No	No
IV	End of the test after; due to: falling out of the flames	(min:s)	16:25	20:20	19:05	21:53
V	Opening test specimen for inspection	(min:s)	60:00	60:00	60:00	60:00

(*) not reached (-) not applicable - not detected

Photos of the test specimens before and after the test: annex 1.

4. DIRECT FIELD OF APPLICATION OF TEST RESULTS

a) Roof pitch

The roof as described has been tested with a roof pitch of 45°.

The test results apply to roofs with a pitch of ≥ 20°, as defined in § 4.10.1 of the standard.

b) Nature of the deck

The roof as described has been tested with the following supporting deck: Wood particle board with gaps ≤ 0,5 mm . The test results apply, as defined in § 4.10.2 of the standard, to all systems with the same components (including the thicknesses) installed in the same way, but with different decks as follows:

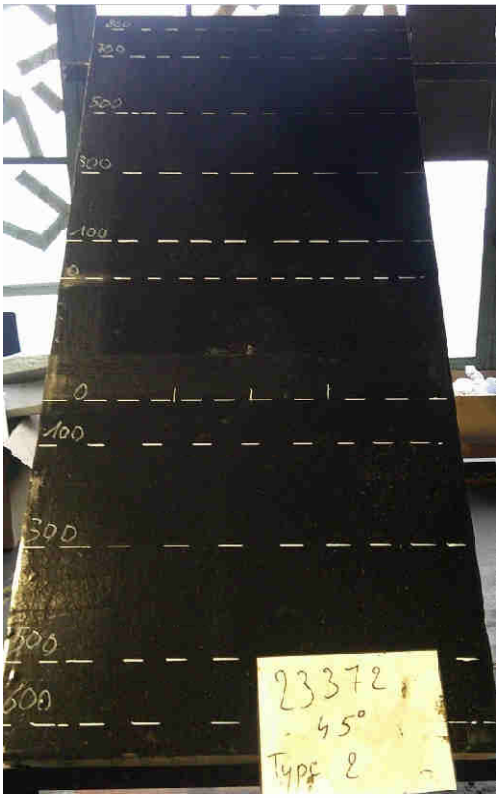
- Any wooden continuous deck with a minimum thickness of 16 mm and gaps not exceeding 0.5 mm.
- Any non-combustible continous deck with a minimum thickness of 10 mm.

Photos of the test specimen before and after the test

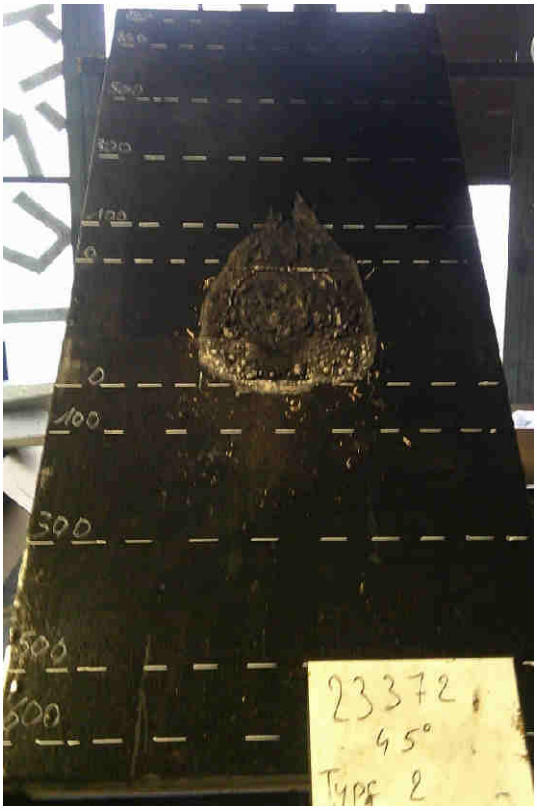
Type 1: Before

After

Type 2: Before



After



Photos of the test specimen before and after the test

Type 3: Before

After

Type 3: Before

After